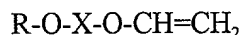


**What is claimed is:**

1. A vinyl ether compound having the formula:



wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  
 5  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$ ,  
 $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  
 $R_1-[CFCI-CF_2-]_pCH_2-$  and  $HCFCI-CF_2-$ ; wherein  $R_1$  is selected from the group consisting of  
 hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and  
 substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated  
 10 aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals and  
 unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and  
 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the  
 group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and  
 substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals,  
 15 unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted  
 heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted  
 fluorinated aliphatic radical, X is not ethylene or propylene.

2. The compound of claim 1, wherein R is selected from the group consisting of  
 $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-[CFCI-CF_2-]_pCH_2-$  and  $HCFCI-CF_2-$ .

3. The compound of claim 1, wherein R is  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ .

4. The compound of claim 1, wherein R is:  
 $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$  or  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ .

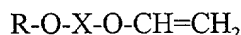
5. The compound of claim 1, wherein R is:  
 $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ .

6. The compound of claim 2, 3, 4 or 5 wherein  $R_1$  is a  $C_1$ - $C_{12}$  fluorinated aliphatic radical; and X is an aliphatic, cyclic aliphatic, aromatic or araliphatic radical.

7. The compound of claim 6, wherein X is a 1,4-cyclohexyldimethyl radical or an alkyl radical having the formula  $(-CH_2-)_n$ , wherein n is between 2 and 4, inclusive.

5 8. The compound of claim 7, wherein  $R_1$  is a trifluoromethyl radical.

9. A curable composition comprising a curable component comprising at least one compound having the formula:



wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  
 10  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$ ,  
 $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  
 $R_1-[CFCF_2-]_pCH_2-$  and  $HCFCF_2-$ ; wherein  $R_1$  is selected from the group consisting of  
 hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and  
 substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated  
 15 aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals and  
 unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and  
 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the  
 group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and  
 substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals,  
 20 unsubstituted and substituted araliphatic radicals and unsubstituted and substituted  
 heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted  
 fluorinated aliphatic radical, X is not ethylene or propylene.

10. The composition of claim 9, wherein R contains at least 1 chlorine or bromine.

11. The composition of claim 9, wherein R contains at least one radical selected  
 25 from the group consisting of  $-OH$ ,  $-COOCH_3$ ,  $-OCH_3$ ,  $-OCH_2CH_3$ ,  $-NO_2SH$ ,  $-SCH_3$ , phenyl,  
 benzyl, cyclohexyl, cyclohexyldimethyl and chlorocyclohexyl radicals.

12. The composition of claim 9, wherein R is selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-[CFCl-CF_2]_pCH_2-$  and  $HCFC1-CF_2-$ .

13. The composition of claim 9, wherein R is  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-$ .

14. The composition of claim 9, wherein R is:

5  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-C(=O)-$  or  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2]-$ .

15. The composition of claim 9, wherein R is:

$R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2]-C(=O)-$ .

16. The composition of claim 12, 13, 14 or 15, wherein  $R_1$  is a  $C_1-C_{12}$  fluorinated aliphatic radical; and X is an aliphatic, cyclic aliphatic, aromatic or araliphatic radical.

10 17. The compound of claim 16, wherein X is a 1,4-cyclohexyldimethyl radical or an alkyl radical having the formula  $(-CH_2-)_n$ , wherein n is between 2 and 4, inclusive.

18. The compound of claim 17, wherein  $R_1$  is a trifluoromethyl radical.

15 19. The composition of claim 9, further comprising at least one ethylenically unsaturated monomer, oligomer, or polymer compound, or at least one monomer, oligomer or polymer compound having a terminal epoxide group.

20. The composition of claim 9, wherein said curable component is present in an amount from about 0.01% to about 99.9% by weight of said composition.

21. The composition of claim 20, wherein said curable component is present in an amount greater than about 35% by weight.

20 22. The composition of claim 20, wherein said curable component is present in an amount between about .10 and 2.0% by weight.

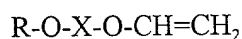
23. The composition of claim 9, further comprising one or more additives selected from the group consisting of anti-oxidants, photostabilizers, volume expanders, fillers, dyes, free radical scavengers, contrast enhancers, UV absorbers and initiator compounds.

24. The composition of claim 23, wherein said initiator compound is a Lewis Acid catalyst.

25. The composition of claim 23, wherein said initiator compound is a free radical or cationic photoinitiator compound.

26. The composition of claim 23, comprising an initiator compound present in an amount from about 0.01 to about 10% by weight of the composition.

27. A curable composition comprising between about 0.01% and about 10% by weight of at least one compound having the formula:



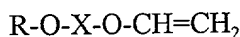
wherein R is a radical having the formula  $\text{R}_1\text{-CFH-CF}_2\text{-}$  or  $\text{R}_1\text{-CF=CF-}$ , wherein  $\text{R}_1$  is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals and unsubstituted and substituted heterocyclic radicals.

28. The composition of claim 27, wherein said curable component is present in an amount between about 0.10% and about 2.00% by weight.

29. The composition of claim 27, further comprising a cationic photoinitiator compound.

30. The composition of claim 27, further comprising at least one monomer, oligomer or polymer compound having a terminal epoxide group.

31. A curable composition comprising a Lewis Acid catalyst and at least one compound having the formula:



wherein R is a radical having the formula  $\text{R}_1\text{-CFH-CF}_2\text{-}$  or  $\text{R}_1\text{-CF=CF-}$ , wherein  $\text{R}_1$  is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals and unsubstituted and substituted heterocyclic radicals.

32. A process for producing an optical device comprising the steps of:

- (a) applying a layer of the photocurable composition of claim 25 or 29 onto a substrate;
- (b) imagewise exposing the photocurable composition to actinic radiation to form exposed and non-exposed areas on the substrate; and
- (c) removing the imagewise non-exposed areas while leaving the imagewise exposed areas on the substrate.

33. An optical device produced according to the process of claim 32.

34. The optical device of claim 33, further characterized as being a waveguide, splitter, router, coupler, combiner or any combination thereof.

35. The optical device of claim 33, wherein said substrate comprises silicon, silicon oxide, gallium arsenide, glass, polymer or a composite material.

36. A polymer comprising one or more vinyl ether units having the formula:



wherein R is a radical selected from the group consisting of  $R_1\text{-C}_n\text{H}_m\text{-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-[CFCl-CF}_2\text{]}_p\text{CH}_2\text{-}$  and  $\text{HCFCI-CF}_2\text{-}$ ; wherein  $R_1$  is selected from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals, and unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1\text{-C}_n\text{H}_m\text{-}$  is an otherwise unsubstituted fluoroaliphatic radical, X is not ethylene or propylene.

37. The polymer of claim 36, wherein R contains at least 1 chlorine or bromine.

38. The polymer of claim 36, wherein R contains at least one radical selected from the group consisting of -OH, -COOCH<sub>3</sub>, -OCH<sub>3</sub>, -OCH<sub>2</sub>CH<sub>3</sub>, -NO<sub>2</sub>SH, -SCH<sub>3</sub>, phenyl, benzyl, cyclohexyl, cyclohexyldimethyl and chlorocyclohexyl radicals.

39. The polymer of claim 36, wherein  $R_1$  is selected from the group consisting of  $R_1\text{-C}_n\text{H}_m\text{-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-C(=O)-}$ ,  $R_1\text{-[CFCl-CF}_2\text{]}_p\text{CH}_2\text{-}$  and  $\text{HCFCI-CF}_2\text{-}$ .

40. The polymer of claim 36, wherein R is  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-$ .

41. The polymer of claim 36, wherein R is:

$R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-C(=O)-$  or  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2]-$ .

42. The polymer of claim 36, wherein R is:

$R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2]-C(=O)-$ .

43. The polymer of claim 39, 40, 41 or 42, wherein  $R_1$  is a  $C_1-C_{12}$  fluorinated aliphatic radical; and X is an aliphatic, cyclic aliphatic, aromatic or araliphatic radical.

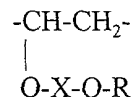
44. The polymer of claim 43, wherein X is a 1,4-cyclohexyldimethyl radical or an alkyl radical having the formula  $(-CH_2-)_n$ , wherein n is between 2 and 4, inclusive.

45. The polymer of claim 44, wherein  $R_1$  is a trifluoromethyl radical.

46. The polymer of claim 36, wherein said polymer further comprises one or more second repeating units selected from the group consisting of monomers, oligomers and polymers containing at least one terminal ethylenically unsaturated group and monomers, oligomers and polymers containing at least one terminal epoxide group.

47. The polymer of claim 36, consisting essentially of said vinyl ether repeating units.

48. An optical device comprising a substrate having light-transmissive regions coated with a polymer comprising one or more vinyl ether units having the formula:



wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2]-C(=O)-$ ,

$R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  
 $R_1-[CFCl-CF_2-]_pCH_2-$  and  $HCFC1-CF_2-$ , wherein  $R_1$  is selected from the group consisting of  
hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and  
substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated  
5 aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals, and  
unsubstituted and substituted fluorinated heterocyclic radicals;  $n$  is an integer between 1 and  
6, inclusive;  $n \leq m \leq 2n$ ;  $p$  is an integer between 1 and 20, inclusive; and  $X$  is selected from the  
group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and  
substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals,  
10 unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted  
heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted  
fluorinated aliphatic radical,  $X$  is not ethylene or propylene.

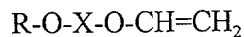
49. The optical device of claim 48, wherein  $R_1$  is a  $C_1-C_{12}$  fluorinated aliphatic  
radical; and  $X$  is an aliphatic, cyclic aliphatic, aromatic or araliphatic radical.

15 50. The optical device of claim 48, wherein said polymer comprises one or more  
second repeating units selected from the group consisting of monomers, oligomers and  
polymers having at least one terminal ethylenically unsaturated group and monomers,  
oligomers and polymers having at least one terminal epoxide group.

20 51. The optical device of claim 48, wherein said polymer consists essentially of  
said vinyl ether repeating units.

52. The optical device of claim 48, further characterized by being a waveguide,  
splitter, router, coupler, combiner or any combination thereof.

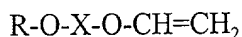
53. An adhesive composition comprising a vinyl ether compound having the  
formula:





wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-[CFCl-CF_2-]_pCH_2-$ ,  $R_1-CFH-CF_2-$ ,  $R_1-CF=CF-$  and  $HCFC1-CF_2-$ ; wherein  $R_1$  is selected from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals and unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted or substituted fluorinated aliphatic radical, X is not ethylene or propylene.

54. An ink composition comprising a vinyl ether compound having the formula:



wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-[CFCl-CF_2-]_pCH_2-$ ,  $R_1-CFH-CF_2-$ ,  $R_1-CF=CF-$  and  $HCFC1-CF_2-$ ; wherein  $R_1$  is selected from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals and unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic

radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted fluorinated aliphatic radical, X is not ethylene or propylene.

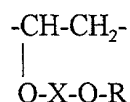
55. The composition of claim 53 or 54, wherein X is a 1,4-cyclohexyldimethyl radical or an alkyl radical having the formula  $(-CH_2-)_n$ , wherein n is between 2 and 4, inclusive.

56. An article comprising a film, said film comprising a polymer with one or more vinyl ether units having the formula:



wherein R is a radical selected from the group consisting of  $R_1-C_nH_m-$ ,  $R_1-C_nH_m-C(=O)-$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]$ ,  $R_1-C_nH_m-CH[-C(=O)-O-X-O-CH=CH_2-]C(=O)-$ ,  $R_1-[CFCF_2-]_pCH_2-$ ,  $R_1-CFH-CF_2-$ ,  $R_1-CF=CF-$  and  $HCFCF_2-$ , wherein  $R_1$  is selected from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals, and unsubstituted and substituted fluorinated heterocyclic radicals; n is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ; p is an integer between 1 and 20, inclusive; and X is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted fluorinated aliphatic radical, X is not ethylene or propylene.

57. An article comprising a coated substrate, said substrate comprising a polymer layer, said polymer comprising one or more vinyl ether units having the formula:

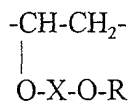


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wherein R is a radical selected from the group consisting of  $R_1\text{-C}_n\text{H}_m\text{-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-[CFCl-CF}_2\text{]}_p\text{CH}_2\text{-}$ ,  $R_1\text{-CFH-CF}_2\text{-}$ ,  $R_1\text{-CF=CF-}$  and  $\text{HCFC1-CF}_2\text{-}$ , wherein  $R_1$  is selected from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals, and unsubstituted and substituted fluorinated heterocyclic radicals;  $n$  is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ;  $p$  is an integer between 1 and 20, inclusive; and  $X$  is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1\text{-C}_n\text{H}_m\text{-}$  is an otherwise unsubstituted fluorinated aliphatic radical,  $X$  is not ethylene or propylene.

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58. An article comprising a fiber, said fiber comprising a polymer with one or more vinyl repeating units having the formula:



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wherein R is a radical selected from the group consisting of  $R_1\text{-C}_n\text{H}_m\text{-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]}$ ,  $R_1\text{-C}_n\text{H}_m\text{-CH[-C(=O)-O-X-O-CH=CH}_2\text{-]C(=O)-}$ ,  $R_1\text{-[CFCl-CF}_2\text{]}_p\text{CH}_2\text{-}$ ,  $R_1\text{-CFH-CF}_2\text{-}$ ,  $R_1\text{-CF=CF-}$  and  $\text{HCFC1-CF}_2\text{-}$ , wherein  $R_1$  is selected

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from the group consisting of hydrogen, unsubstituted and substituted fluorinated aliphatic radicals, unsubstituted and substituted fluorinated cyclic aliphatic radicals, unsubstituted and substituted fluorinated aromatic radicals, unsubstituted and substituted fluorinated araliphatic radicals, and unsubstituted and substituted fluorinated heterocyclic radicals;  $n$  is an integer between 1 and 6, inclusive;  $n \leq m \leq 2n$ ;  $p$  is an integer between 1 and 20, inclusive; and  $X$  is selected from the group consisting of unsubstituted and substituted aliphatic radicals, unsubstituted and substituted cyclic aliphatic radicals, unsubstituted and substituted aromatic radicals, unsubstituted and substituted araliphatic radicals, and unsubstituted and substituted heterocyclic radicals; provided that when  $R_1$  of  $R_1-C_nH_m-$  is an otherwise unsubstituted aliphatic radical,  $X$  is not ethylene or propylene.

59. The article of claim 56, 57 or 58, wherein  $X$  is a 1,4-cyclohexyldimethyl radical or an alkyl radical having the structure  $(-CH_2-)_n$ , wherein  $n$  is between 2 and 4, inclusive.

60. The article of claim 56, 57 or 58, wherein said polymer further comprises one or more second repeating units selected from the group consisting of monomers, oligomers and polymers containing at least one terminal ethylenically unsaturated group and monomers, oligomers and polymers containing at least one terminal epoxide group.

61. The fiber of claim 56, 57 or 58, wherein said polymer consists essentially of said vinyl ether repeating units.